



I U P A C

IUPAC Compendium of Chemical Terminology

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This online version of the IUPAC Compendium of Chemical Terminology mostly corresponds to the second edition (1997), compiled by Alan D. McNaught and Andrew Wilkinson (Royal Society of Chemistry, Cambridge, UK). Towards the end of 2003, work began on the addition of terms from more recent IUPAC recommendations, with the intention of eventually bringing the website into a condition in which it can be maintained up-to-date.

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Some minor errors have been corrected (the changes are noted where they occur), and cross-referencing has been improved. The conversion to electronic form (pdf files) was carried out by David Stout (Information Technology Consultant, Information Services, Royal Society of Chemistry).

The Compendium is popularly referred to as the "Gold Book", in recognition of the contribution of the late Victor Gold, who initiated work on the first edition. It is one of the series of IUPAC "Colour Books" on chemical nomenclature, terminology, symbols and units (see the list of

source documents [pdf file]), and collects together terminology definitions from IUPAC recommendations already published in *Pure and Applied Chemistry* and in the other Colour Books.

Terminology definitions published by IUPAC are drafted by international committees of experts in the appropriate chemistry sub-disciplines, and ratified by IUPAC's Interdivisional Committee on Nomenclature and Symbols. In this edition of the Compendium these IUPAC-approved definitions are supplemented with some definitions from ISO and from the International Vocabulary of Basic and General Terms in Metrology; both these sources are recognised by IUPAC as authoritative. The result is a collection of nearly 7000 terms, with authoritative definitions, spanning the whole range of chemistry.

All IUPAC recommendations published up to the end of 1995 were considered for inclusion, together with some particularly significant material published in 1996 (class names, kinetics, clinical chemistry quantities and units, stereochemistry, photochemistry and basic polymer terms). A selection was made on the basis of general utility: some terms were omitted as being of interest only to a highly specialist audience. Since 2003, more terms are being added to the web-site, drawn from IUPAC publications which have appeared since 1995 [see project for details]. Eventually, it is hoped thus to develop the compendium to a point from which it can be kept continually up-to-date.

Some minor editorial changes were made to the originally published definitions, to harmonise the presentation and to clarify their applicability, if this is limited to a particular sub-discipline. Verbal definitions of terms from Quantities, Units and Symbols in Physical Chemistry (the IUPAC Green Book, in which definitions are generally given as mathematical expressions) were developed specially for this Compendium by the Physical Chemistry Division of IUPAC. Definitions of a few physicochemical terms not mentioned in the Green Book were added at the same time (referred to here as Physical Chemistry Division, unpublished).

The first reference given at the end of each definition is to the page of *Pure Appl. Chem.* or other source where the original definition appears; other references given designate other places where compatible definitions of the same term or additional information may be found, in

other IUPAC documents. The complete reference citations are given in the appended list of [source documents \[pdf file\]](#). Highlighted terms within individual definitions link to other entries where additional information is available.

A cross (+) against an entry implies that use of the term is discouraged.

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Questions regarding the website, please contact [web manager](#).

interpenetrating polymer network

Recommended acronym: IPN

Polymer comprising two or more polymer networks which are at least partially interlaced on a molecular scale, but not covalently bonded to each other and cannot be separated unless chemical bonds are broken.

Notes:

1. A mixture of two or more preformed polymer networks is not an interpenetrating polymer network.
2. An IPN may be further described by the process by which it is synthesized. When an IPN is prepared by a process in which the second component network is polymerized following the completion of polymerization of the first component network, the IPN may be referred to as a sequential IPN. When an IPN is prepared by a process in which both component networks are polymerized concurrently, the IPN may be referred to as a simultaneous IPN.

2004, 76, 1989

N.B. This supersedes an earlier definition.